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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,808	12/29/2000	Brana Kukic	NC30318	5334
38879	7590	05/10/2004	EXAMINER	
DARBY & DARBY P.C. P.O. BOX 5257 NEW YORK, NY 10150-6257			MACE, BRAD THOMAS	
			ART UNIT	PAPER NUMBER
			2663	10

DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/751,808	KUKIC, BRANA	
	Examiner	Art Unit	
	Brad T. Mace	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12-29-00 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the word "a" is missing between "of" and "data" on line 1. Correction is required. See MPEP § 608.01(b).
2. The disclosure is objected to because of the following informalities: the word "time" should be "times" on line 22 of pg. 2. The word "calculate" should be "calculating" on line 18 of pg. 3. The word "cause" should be "caused" on line 19 of pg. 3. The word "an" is missing on line 4 of pg. 6. The word "eliminated" should be "eliminate" on line 7 of pg. 8. The word "links" should be "link" on line 1 of pg. 9. The word "become" should be "becomes" on line 2 of pg. 9. The word "links" should be "link" on line 3 of pg. 9. Appropriate correction is required.
3. The disclosure is objected to because of the following informalities: no serial number was supplied on line 6 of pg 7. for the U.S. Application titled: "Method and System for Establishing Link Bit Rate for Inverse Multiplexed Data Streams". Appropriate correction is required.

Drawings

4. The drawings are objected to because reference 28 does not clearly point out the multiple physical communication links in Figures 1, 2, and 3. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,002,670 ("Rahman et al.") in view of U.S. Patent No. 6,574,191 ("Usukura et al.").

Regarding claims 1 and 3:

Rahman et al. teaches a system and method for passing a cell stream from a first location to a second location (see Figure 3). The cells can be passed at a particular transmission rate if this was the requirement chosen from the selection criteria (col 1., lines 64-67 of the specification). This system has a first unit at the first location coupled to one end of each of a plurality of links for receiving the cell stream and inverse multiplexing the cell stream over at least two provisioned (trained) links selected from the plurality of links that have active status; see Figure 3, col. 3, lines 32-33, and col. 3, line 65. The second unit at the second location is coupled to the other end of each of the plurality of low capacity links for receiving and multiplexing the inverse multiplexed cell stream from each of the active provisioned (trained) links to produce the cell stream; see Figure 3, col. 3, lines 32-33, and col. 3, line 65. Also, the multiplexing and inverse multiplexing occurs over a plurality of active provisioned (trained) links, which infers that the sum of the transmission rates of each of the active provisioned (trained) links is at least equal to the transmission rate of the cell stream (in order for normal operation).

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However, Rahman et al. does not teach that at least one data link selected from the plurality of low capacity data links that is trained and set to idle status, wherein the first unit and the second unit switch to use the trained idle data link to replace any one of the active trained data links that has failed and wherein the status of the idle data link is changed to active, thereby avoiding system down time due to line failure.

Usukura et al. discloses that when a failure occurs on an intermediate transmission line (data link), use an intermediate transmission line (link) other than the intermediate transmission line (link) on which the failure occurred; col. 3, lines 21-25. In addition, when the failure in the intermediate transmission line is detected, the management system is notified of the occurrence and can avoid the impaired line without a delay in time (thereby avoiding system down-time/delays due to line failure); col. 12, lines 66-67, and col. 13, lines 1-5. The above infers that at least one transmission line (data link) is selected from the plurality of transmission lines (data links) and is set to backup (idle) status, since it can be switched to without a delay in time. Rahman et al. taught above that links are provisioned (trained). Usukura et al. teaches that the first unit and the second unit switch to use another transmission line (idle data link) to replace any one of the active links that has failed; see Figure 2, and col. 3, lines 21-25. Rahman et al. taught above that links are provisioned (trained). It is inherent that once the backup (idle) transmission line (data link) is activated for use, the status is changed to active.

A person of ordinary skill in the art would have been motivated to employ Usukura et al. in Rahman et al. in order to obtain a system that uses provisioned

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(trained) backup (idle) transmission lines (data links) so that when a failure occurs on an active provisioned (trained) intermediate transmission line (data link), the sending device would use a provisioned (trained) intermediate transmission line (data link) other than the provisioned (trained) intermediate transmission line (data link) on which the failure occurred. The suggestion/motivation to employ Usukura et al. in Rahman et al. would have been to make the inverse multiplexing system of Rahman et al. more robust and efficient in response to transmission faults, by switching to backup provisioned (trained) intermediate transmission lines (data links) without having system down time due to line failure and to use the provisioned (trained) failed transmission lines (data links) as provisioned (trained) backup (idle) transmission lines (data links). At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Usukura et al. with Rahman et al. (collectively "Rahman et al. – Usukura et al. ") to obtain the invention as specified in claims 1 and 3.

6. Claims 2, 4, 5, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rahman et al. – Usukura et al. as applied to claims 1 and 3 above, and further in view of the admitted prior art.

Regarding claims 2, 5, and 7:

Rahman et al. – Usukura et al. discloses substantially all the claimed invention but does not disclose expressly that the trained data links operate at an optimal transmission rate. The admitted prior art discloses that known methods of inverse multiplexing use links that are trained at an optimal rate (pg. 2, paragraph [0008])

A person of ordinary skill in the art would have been motivated to employ the admitted prior art in Rahman et al. – Usukura et al. to train the transmission links (data links) at an optimal transmission rate. The suggestion/motivation to do so would have been to allow each of the transmission lines (data links) to transmit data from the transmitter end to the receiver end at the same rate as the other transmission lines (data links). At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine the admitted prior art with Rahman et al. – Usukura et al. (collectively Rahman et al. - Usukura et al. – admitted prior art) to obtain the invention as specified in claims 1 and 2, in claim 5, and in claim 7.

Regarding claims 4 and 6:

Rahman et al. – Usukura et al. discloses substantially all the claimed invention above. In addition, Usukura et al. discloses that the failed active transmission link (data link) is repaired (restored); col. 13, lines 8-10. (Rahman et al. taught above that links are provisioned (trained)). Once the transmission line (data link) becomes repaired (restored) by the system, it can be set to the idle state. This is implied by Usukura et al. in col. 5, lines 47-54, where it is stated “normal transmission state”. In col. 14, lines 30-32, Usukura et al. states that the “normal procedure can be used as it is at the time of a normal operation”. This therefore infers that when the system is using an appropriate backup transmission line (data link) for the data transfer, the transmission can be in the normal transmission state. Since transmission is in the normal transmission state, transmission can be used as is, and will not have to switch over the restored (repaired)

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transmission link. Thus the restored (repaired) transmission link (data link) is placed in the idle state. However, Rahman et al. – Usukura et al. does not disclose expressly that the failed active data link is retrained at an optimal transmission rate. The admitted prior art discloses that known methods of inverse multiplexing use links that are trained at an optimal rate (pg. 2, paragraph [0008]).

A person of ordinary skill in the art would have been motivated to employ the admitted prior art in Rahman et al. – Usukura et al. to train the failed active transmission links (data links) at an optimal transmission rate. The suggestion/motivation to do so would have been to allow the failed active transmission links (data links) to transmit data from the transmitter end to the receiver end at the same rate as the active transmission links (data links), should it be activated. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine the admitted prior art with Rahman et al. – Usukura et al. (collectively Rahman et al. - Usukura et al. – admitted prior art) to obtain the invention as specified in claims 1 and 4 and in claims 5 and 6.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

*Vallee et al. discloses an ATM inverse multiplexing system

*Peleg et al. discloses an inverse multiplexer device

*Lancon et al. discloses a system and method for recovering and restoring lost data in a n-channel coherent data transmission system

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*lino et al. discloses a switching system between working transmission lines and protection transmission line

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brad T. Mace whose telephone number is (703)-306-5454. The examiner can normally be reached on M-F, with the exception of every other Friday.

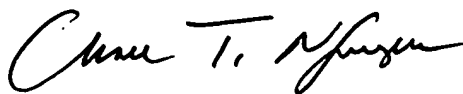
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703)-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

btm

Brad T. Mace
Examiner
Art Unit 2663

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